REMARKS

Status of the claims

[0001] Claims 1-84 remain in the case and stand rejected. The Office Action rejected Claims 1-12, 25-33, and 35-44 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2002/0136231 to Leatherbury et al. (hereinafter "Leatherbury") in view of U.S. Patent No. 6,118,976 to Arias et al. (hereinafter "Arias"). The Office Action rejected Claims 13-24, 45-57, and 60-64 under 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0147978 to Dolgonos et al. (hereinafter "Dolgonos") in view of Arias. The Office Action rejected Claim 34 under 103(a) as being unpatentable over Leatherbury in view of Arias in further view of U.S. Patent No. 7,225,162 to Kim et al. (hereinafter "Kim"). The Office Action rejected Claims 58-59 under 103(a) as being unpatentable over Dolgonos in view of Arias in further view of Kim. The Office Action rejected Claims 65 and 66 under 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0172658 to Rakib et al. (hereinafter "Rakib") in view of Arias. The Office Action rejected Claims 67-81 under 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0196211to Chan (hereinafter "Chan") in view of Arias. The Office Action rejected Claims 82-84 under 103(a) as being unpatentable over U.S. Patent No. 5,822,324 to Kostresti et al. (hereinafter "Kostresti") in view of U.S. Patent Application Publication No. 2002/0059615 to Okawara (hereinafter "Okawara").

[0002] Claims 1, 13, 25, 45, 65, 67, and 82 have been amended to clarify embodiments of the invention. These amendments will be discussed in relation to the corresponding rejection. No new matter has been added. Applicant is not conceding in this application that the claims amended are not patentable over the art cited by the Examiner, as the present claim amendments are only for facilitating expeditious prosecution. Applicant respectfully reserves the right to pursue these and other claims in one or more continuation and/or divisional patent applications.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)

[0003] The Office Action rejected Claims 1-12, 25-33, and 35-44 under 35 U.S.C. §103(a) as being unpatentable over Leatherbury in view of Arias. The Office Action rejected Claims 13-24, 45-57, and 60-64 under 103(a) as being unpatentable over Dolgonos in view of Arias. The Office Action rejected Claim 34 under 103(a) as being unpatentable over Leatherbury in view of Arias in further view Kim. The Office Action rejected Claims 58-59 under 103(a) as being unpatentable over Dolgonos in view of Arias in further view of Kim. The Office Action rejected Claims 65 and 66 under 103(a) as being unpatentable over Rakib in view of Arias. The Office Action rejected Claims 67-81 under 103(a) as being unpatentable over Chan in view of Arias. The Office Action rejected Claims 82-84 under 103(a) as being unpatentable over Kostresti in view of Okawara. The Applicant respectfully traverses these rejections.

[0004] The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. MPEP at § 2142. Determination of obviousness must rely on the entire record and must be by a preponderance of evidence. MPEP at § 2142. In order to determine obviousness, the Examiner must consider the differences between the claimed invention and the prior art. In addition, the Examiner must provide a "clear articulation of the reason(s) why the claimed invention would have been obvious." MPEP §2141[III]. There are numerous differences between the presented claims and the art of record. In addition, the Applicant respectfully asserts that Leatherbury, Arias, Dolgonos, Kim, Rakib, Chan, Kostresti and Okawara, combined fail to teach or disclose each element of the claimed invention.

[0005] Leatherbury describes a communication system "for providing dedicated bandwidth to at least one subscriber location for transmitting to a common point of distribution via an HFC network." Leatherbury, Abstract. The HFC distribution network "comprises coaxial cables that are distributed from each node 107 to the respective subscriber locations 109." *Id.* at Page 4, Paragraph 37. Arias describes a data communications system that provides conventional television and video on demand over a digitized UHF transmission. Arias, Abstract.

[0006] Dolgonos describes a hybrid cable/wireless communications system that "combines wireless antenna nodes with existing cable infrastructure to provide mobile wireless Internet services and video distribution." Dolgonos, page 2, paragraph 17. More specifically, the Dolgonos system relies on a fiber/coaxial cable plants to which bi-directional antenna nodes are connected to provide Internet serve to wireless subscriber units. *See*, e.g., *id.* Kim involves a read-only disk containing sample data and methods to reproduce the data. Kim, Abstract.

[0007] Furthermore, Rakib describes a home network system with "a host bus and host computer programmed to do management and control functions and a routing function, one or more local area network interfaces and one or more external network interfaces." Rakib, page 3, paragraph 21. Chan describes "cable television systems supporting digital services." Chan, page 1, paragraph 1. The Chan system includes a set-top box that receives content via a hybrid/fiber coax network. *Id.* at page 2, paragraph 24. The network connects to the set-top box "through coaxial cable in a logical tree configuration." *Id.*

[0008] Kostresti transmits wireless telephone information with broadband digital information through a broadcast network using multiple transmitters at separately located sites simultaneously broadcasting the same signal. Kostresti, Abstract. Moreover, Okawara describes a cable broadcasting system involving radio telephones. Okawara, Abstract.

[0009] Furthermore, Applicant respectfully asserts that Claim 1, as amended, is not obvious over the art of record. Claim 1, as amended, reads:

> 1. (Currently Amended) An apparatus for delivering digital services, the apparatus comprising:
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> a broadcast data source configured to provide digital broadcast data;
>
> a user data source configured to provide digital user requested data;
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> a transmitter configured to transmit the digital broadcast data over an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system, the digital broadcast data being transmitted on a broadcast channel within a spectrum historically dedicated to analog broadcast signals; and
>
> the transmitter further configured to transmit the digital user requested data over the over-the-air data delivery system, the digital user requested data being

transmitted on a user channel within the spectrum historically dedicated to analog broadcast signals; and

the transmitter further configured to transmit one or more of the digital broadcast data and the digital user requested data on a first plurality of channels and a second plurality of channels, the first plurality of channels directionally transmitted in a first transmission pattern, the second plurality of channels directionally transmitted in a second transmission pattern, the second plurality of channels different at least in part from the first plurality of channels.

Claim 1.

[0010] The amendment to Claim 1 finds support in Claim 65 prior to the amendment in the current response, paragraph 49 of the Specification ("To increase the number of channels, particularly user-requested channels including telephone channels, the antenna(s) 240 and the transmission facility 220 may be configured to directionally transmit and/or directionally receive wireless communications in a particular radiation pattern 250"), paragraph 51 of the Specification ("the antenna(s) 240 and the transmission facility 220 may be configured to directionally transmit and directionally receive a different set of user-requested channels within each lobe 260 using a set of directional antennas 240"), and Figure 2. Therefore, no new matter has been added.

[0011] The amendment to Claim 1 clarifies that digital data with digital content and services may be transmitted directionally, thereby increasing the amount of channels a user may receive and facilitating increased market penetration. Therefore, a user may receive a different group of channels by adjusting a directional antenna.

[0012] The art of record fails to teach "the transmitter further configured to transmit one or more of the digital broadcast data and the digital user requested data on a first plurality of channels and a second plurality of channels, the first plurality of channels directionally transmitted in a first transmission pattern, the second plurality of channels directionally transmitted in a second transmission pattern, the second plurality of channels different at least in part from the first plurality of channels." Leatherbury and Dolgonos describe bi-directional

communication which is communication that can travel both upstream and downstream. However, bi-directional communication is not the same as "directionally transmitting in a transmission pattern." Leatherbury and Dolgonos fail to teach directionally transmitted in multiple transmission patterns to allow more channels to be available. Furthermore, while Arias describes transmitting a signal, Arias is also silent on concurrently transmitting one set of channels in one direction and a different set of channels in another direction to maximize selection and available channels.

[0013] Kostresti discusses a simulcast using omni-directional patterns and directional patterns. Kostresti, col. 11, ll. 15-20, 30-40, Figure 5A, Figure 5B. However, Kostresti broadcasts the same channels at the same time throughout the entire coverage area. *Id.* at col. 11, ll. 41-43. Therefore, Kostresti also fails to teach a broadcasting different sets of channels in different directions. Kostresti is directed toward saturating a broadcasting area with the same signal to improve reception of a single channel set. Therefore, Kostresti teaches away from broadcasting different channel sets in different directions as this would destroy the object of Kostresti.

[0014] Because the art of record fails to teach the limitations of Claim 1, Claim 1 is not obvious over the art of record. Consequently Applicant respectfully requests that the rejection of Claim 1 under 103(a) be withdrawn. Furthermore, Claims 13 and 67, which include similar limitations to Claim 1 is also allowable for at least the same reasons. In addition, Claim 67 includes an additional limitation that the transmitter transmits the digital *user requested* data on a first plurality of *user* channels and a second plurality of *user* channels. Therefore, Applicant respectfully requests that the rejection of Claims 13 and 67 under 35 U.S.C. §103(a) be likewise withdrawn.

[0015] Furthermore, Claim 25, as amended, is also not obvious over the art of record. Claim 25 includes similar limitations to Claim 1. However, Claim 25 recites "wherein transmitting further comprises transmitting one or more of the digital broadcast data and the

digital user requested data with a first digital data stream on a first channel and a second digital data stream on the first channel, the first digital data stream directionally transmitted in a first transmission pattern, the second digital data stream directionally transmitted in a second transmission pattern, the second digital data stream comprising one or more of digital content and services substantially different from one or more of digital content and services of the first digital data stream." This amendment is support by the Specification in at least paragraph 50 ("Each leaf or lobe 260 in the pattern may carry different content or services within the same channels").

[0016] In Claim 25, the same channel is used to broadcast different content in different directions. As previously stated, the art of record fails to teach broadcasting different channel sets in different directions using different transmission patterns. Furthermore, the art of record also fails to teach broadcasting different content using the same channel, albeit in a different direction. Consequently Applicant respectfully requests that the rejection of Claim 25 under 103(a) be withdrawn. Furthermore, Claims 45, 65, and 82 which include similar limitations to Claim 25 are also allowable for at least the same reasons. Therefore, Applicant respectfully requests that the rejection of Claims 45, 65, and 82 under 35 U.S.C. §103(a) be likewise withdrawn.

[0017] Dependant Claims 2-12, 14-24, 26-44, 46-64, 66, 68-81, and 83-84 which depend on Claims 1, 13, 25, 45, 65, 67, and 82, are also not taught by the art of record. Therefore, Applicant respectfully requests that the rejection of Claims 2-12, 14-24, 26-44, 46-64, 66, 68-81, and 83-84 under 35 U.S.C. §103(a) be likewise withdrawn.

CONCLUSION

[0018] As a result of the presented remarks, the Applicant asserts that Claims 1-84, with the current amendments, are patentable and in condition for prompt allowance. Should additional information be required, the Examiner is respectfully asked to notify the Applicant of

such need. If any impediments to the prompt allowance of the claims can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,

/Brian C. Kunlzer/

Brian C. Kunzler
Reg. No. 38,527
Attorney for Applicant

Date: January 5, 2009
8 E. Broadway Suite 600
Salt Lake City, UT 84111
Telephone (801) 994-4646